

What is claimed is:

1. A semiconductor laser device including an element mounting area, which is formed on a top surface of a supporting member having a plane area surrounded by a pair of right and left opposing ends and a pair of front and back opposing sides, for mounting a series of elements including: a semiconductor laser element, and a light detecting element which detects a laser beam emitted from the semiconductor laser element and reflected at an outside optical disc surface so as to be re-entered, wherein

an optical path of the laser beam from the semiconductor laser element to the optical disc surface includes a vertical optical path advancing from the element mounting area of the supporting member in an approximately vertical upwards direction,

arcuate curved outer surfaces are formed on the pair of right and left opposing ends of the supporting member, respectively, or on a pair of right and left protrusions formed on the supporting member, respectively, by which the supporting member is fitted into an installation hole, for a semiconductor laser device, having arcuate curved inner surfaces, and

the arcuate curved outer surfaces are formed of arcs having the vertical optical path as central axes, and are so formed that lengths of curvature radiuses of right and left sides are different.

2. The semiconductor laser device as claimed in claim 1, wherein the supporting member is an electrically insulative casing which comprises: a base having the plane area surrounded by the

opposing ends and the opposing sides, a pair of first protrusions formed on the base along the pair of right and left opposing ends so as to put the plane area in between them, and a plurality of second protrusions formed on the base along the pair of front and back opposing sides so as to put the plane area in between them.

3. The semiconductor device as claimed in claim 1, wherein the light detecting element is mounted to be biased to either right or left side of the curved outer surfaces, and a curvature radius of an arc, corresponding to the side of the curved outer surface to which the light detecting element is mounted to be biased, is longer than a curvature radius of an arc corresponding to an opposing curved outer surface.

4. The semiconductor laser device as claimed in claim 1, wherein the supporting member has the vertical optical path on a position which is biased to either front or back side of the opposing sides.

5. The semiconductor laser device as claimed in claim 1, wherein the element mounting area further mounts a reflector, and a laser beam is emitted from the semiconductor laser element in parallel to the top surface of the supporting member and reflected at the reflector so as to form the vertical optical path.

6. An optical pickup comprising:  
a semiconductor laser device including an element mounting area, which is formed on a top surface of a supporting member having a plane area surrounded by a pair of right and left opposing ends and a pair of front and back opposing sides, for mounting a series of elements

including: a semiconductor laser element, and a light detecting element which detects a laser beam emitted from the semiconductor laser element and reflected by an outside optical disc surface so as to be re-entered, wherein an optical path of the laser beam from the

5 semiconductor laser element to the optical disc surface includes a vertical optical path advancing from the element mounting area of the supporting member in an approximately vertical upwards direction with reference to the element mounting area, arcuate curved outer surfaces are formed on the pair of right and left opposing ends of the supporting

10 member, respectively, or on a pair of right and left protrusions formed on the supporting member, respectively, by which the supporting member is fitted into an installation hole, for a semiconductor laser device, having arcuate curved inner surfaces, and the arcuate curved outer surfaces are formed of arcs having the vertical optical path as

15 central axes, and are so formed that lengths of curvature radiuses of right and left sides are different; and

a pickup housing for incorporating the semiconductor laser device; wherein

an installation hole having arcuate curved inner surfaces is

20 formed in the pickup housing, to which hole the supporting member is fitted into in such a manner that the arcuate curved outer surfaces of the semiconductor laser device coincide with the installation hole.

7. The optical pickup as claimed in claim 6, wherein the supporting member is an electrically insulative casing which comprises:

25 a base having the plane area surrounded by the opposing ends and the

opposing sides, a pair of first protrusions formed on the base along the pair of right and left opposing ends so as to put the plane area in between them, and a plurality of second protrusions formed on the base along the pair of front and back opposing sides so as to put the plane  
5 area in between them.

8. The optical pickup as claimed in claim 6, wherein the light detecting element is mounted to be biased to either right or left side of the curved outer surfaces, and a curvature radius of an arc, corresponding to the side of the curved outer surface to which the light  
10 detecting element is mounted to be biased, is longer than a curvature radius of an arc corresponding to an opposing curved outer surface.

9. The optical pickup as claimed in claim 6, wherein the supporting member has the vertical optical path on a position which is biased to either front or back side of the opposing sides.

15 10. The optical pickup as claimed in claim 6, wherein the element mounting area further mounts a reflector, and a laser beam is emitted from the semiconductor laser element in parallel to the top surface of the supporting member and reflected at the reflector so as to form the vertical optical path.

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